

Application No. 10/534,569
Hunt *et al.*

REMARKS

Regarding the Claim Amendments

The amendments to the claims are supported throughout the specification.

*35 USC 102(b) anticipation rejection – Hunt *et al.* (U.S. Pat. No. 6,132,653)*

This rejection is respectfully traversed. The fundamental difference between the present invention and the Hunt *et al.* reference is that particles of the present invention contain elemental carbon and at least one other element or compound, as now required in the new claims.

*35 USC 103(a) obviousness rejection – Hunt *et al.* and Sudo Akitata *et al.* (Japanese Pub. No. 07-150419)*

The Hunt *et al.* patent is discussed above.

The Sudo Akitata *et al.* reference is fundamentally different from the present invention. Specifically, it uses a hot wall reactor instead of the combustion synthesis of the present invention. The Sudo Akitata *et al.* reference does not describe a gas flow chemical process. The substrate is grown on and has to be intermittently scratched off the reactor wall. See paragraph [0005] “making a furnace wall surface generate on the carbon fiber further, and scratching this intermittently.” Further, the Sudo Akitata *et al.* reference does not describe the use of a solution, but a dispersion. See paragraph [0005] “To a transition metal which serves as ultrafine particle seed (seed) of a transition metal element especially,, and its compounds, organic compounds, such as superfines (30 nm or less),...”

*35 USC 103(a) obviousness rejection – Hunt *et al.* and Arndt *et al.* (Pub. No. WO 02/072258 A1)*

The Hunt *et al.* patent is discussed above.

The Arndt *et al.* reference is fundamentally different from the present invention. Specifically, the process described in the Arndt *et al.* reference first makes carbon black and then, downstream, introduces materials to form a layer on the carbon black; that is, the second material

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is deposited on the carbon black (further, much of the Arndt *et al.* reference concerns a liquid/solution based formation of inorganic materials onto carbon black). In the present invention, the "second element or compound is incorporated with the elemental carbon in the particles as they are formed" [new claim 44].

CONCLUSION

In summary, for the reasons set forth herein, Applicants maintains that claims 44-71 clearly and patentably define the invention, respectfully request that the Examiner reconsider the various grounds set forth in the Office Action, and respectfully request the allowance of the claims that are now under consideration.

Please charge any fees associated with the submission of this paper to Deposit Account 501231. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully Submitted,

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